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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/727,245

12/02/2003

Simon Robert Walmsley

PEA04US

4557

24011

7590

11/16/2005

SILVERBROOK RESEARCH PTY LTD
393 DARLING STREET
BALMAIN, 2041
AUSTRALIA

EXAMINER

UHLENHAKE, JASON S

ART UNIT

PAPER NUMBER

2853

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/727,245

Applicant(s)

WALMSLEY ET AL.

Examiner

Jason Uhlenhake

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/02/2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Objections

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to show details of the printer controller, printhead module and rows of printing nozzles as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claim 5 objected to because of the following informalities: The examiner does not understand that if one printhead module is selected then you cannot have a different number of nozzles for one printhead module. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claim 1 is rejected under 35 U.S.C. 102(a) as being anticipated by Silverbrook (U.S. Pat. 6,857,724).

Silverbrook discloses the following claimed limitations:

- printer controller (48) for supplying dot data to a printhead (41) in a predetermined order (Column 2, Lines 15 – 52)
- comprising at least first and second printhead modules (46) (Column 3, Lines 53-57) which comprises a plurality of printing nozzles (210) (Column 2, Lines 37-42) and being disposed adjacent each other (Column 8, Lines 43-44)

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- printing width of the printhead is wider than a printing width of either of the printhead modules (Column 3, Lines 53-57)
- configured to order and time supply of the dot data to the printhead modules in accordance with their respective widths (Column 2, Lines 23-30) such that a difference in relative widths of the printhead modules is at least partially compensated for (Column 8, Lines 28 – 32)

5. Claim 5 is rejected under 35 U.S.C. 102(b) as being anticipated by Tajima (JP 401216852)

Tajima discloses:

- printer controller (48) configurable to supply dot data to a selectable one of plurality of potential printhead module types, each having a different number of nozzles (210) (Figure 2, 61-66)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2, and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silverbrook (6,857,724), in view of Hackleman et al (5,719,602).

Silverbrook discloses all of the claimed limitations except for the following:

- regarding claim 2, a printhead modules comprise a plurality of rows of the printing nozzles, the controller being configured to supply the dot data to the rows of nozzles in serial form
- regarding claim 3, a controller configured to serially supply the data to a first row of nozzles , the data being serially clocked through the first for of each pair of rows, then through a second row of each pair of rows, until all printhead nozzles have received their respective data.

Hackleman et al discloses the following:

- regarding claim 2, a printhead modules comprise a plurality of rows of the printing nozzles, the controller being configured to supply the dot data to the rows of nozzles in serial form (Column 5, Lines 34-57) for the purpose of controlling the firing of printhead nozzles as a function of media speed.
- regarding claim 3, a controller configured to serially supply the data to a first row of nozzles , the data being serially clocked through the first for of each pair of rows, then through a second row of each pair of rows, until all printhead nozzles have received their respective data. (Column 5, Lines 34-57) for the purpose of adjusting nozzle time to print, thus the time to complete a print job is less.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of a printhead modules comprise a

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plurality of rows of the printing nozzles, the controller being configured to supply the dot data to the rows of nozzles in serial form; a controller configured to serially supply the data to a first row of nozzles, the data being serially clocked through the first for of each pair of rows, then through a second row of each pair of rows, until all printhead nozzles have received their respective data as taught by Hackleman into the device of Silverbrook. The motivation for doing so would have been to increase the speed of printing.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Silverbrook (U.S. Pat. 6,857,724) as modified by Hackleman et al (U.S. Pat. 5,719,602) as applied to claims 1, 2 and 3 above, and further in view of Kamoshida et al (U.S. Pub 2002/0075339).

Silverbrook as modified by Hackleman et al discloses all of the claimed limitations except for the following:

- regarding claim 4, data is clocked through the second row in a direction substantially opposite to that in which it was clocked through the first row

Kamoshida et al discloses the following:

- regarding claim 4, data is clocked through the second row in a direction substantially opposite to that in which it was clocked through the first row (Paragraphs 0005, 0011).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of data clocked through the second row in a direction substantially opposite to that in which it was clocked through the first

row as taught by Kamoshida et al into the device of Silverbrook as modified by Hackleman et al. The motivation for doing so would have been to improve the efficiency of the printing mechanism and thus improving the quality of printing.

8. Claims 6, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tajima (JP 401216852), in view of Oshima (U.S. Pub. 2002/0158934).

Tajima discloses:

- regarding claim 7, configureable to supply dot data to printhead module on basis of one or more printer module widths (Figure 2, 63 and 64)
- regarding claim 8, configurable to supply the dot data to a plurality of printhead modules, on basis of one or more widths of printhead modules (Figure 2, 61-66)

Tajima does not disclose:

- regarding claim 6, non-volatile memory for storing at least one parameter value, at least one parameter determining which of the potential printhead types the printer controller has been configured to supply dot data
- regarding claims 7 and 8, printer module widths indicated by at least one parameter

Oshima discloses the following:

- regarding claim 6, non-volatile memory for storing at least one parameter value, at least one parameter determining which of the potential printhead types the printer controller has been configured to supply dot data (Paragraph 0043) for the purpose of

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determining validity of the characteristic data each time the characteristic data of the printhead is inputted by the input.

- regarding claims 7 and 8, printer module widths indicated by at least one parameter (Paragraph 0043) for the purpose of providing a printing apparatus and printhead characteristic data selection method, which can appropriately handle printhead characteristic data under various environments.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of non-volatile memory for storing at least one parameter value, at least one parameter determining which of the potential printhead types the printer controller has been configured to supply dot data; printer module widths indicated by at least one parameter as taught by Oshima into the device of Tajima. The motivation for doing so would have been to increase the speed of printing.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Uhlenhake whose telephone number is (571) 272-5916. The examiner can normally be reached on Monday - Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JSU
October 21, 2005

JSU

KFJ - 11/05
K. FEGGINS
PRIMARY EXAMINER